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The Mobile Computerist



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BC SECTION
FEBRUARY 2001

Commentary

- 6 From the Editor
- 8 Letters

New & Notable

- 10 Netix Metrics says massive coloured Web traffic starts
- 12 What's New
- 16 Canadian online shoppers tight with a buck, study says
- 16 Sony's new video camera gives film a run for its money

The Mobile Computerist

- 21 Lights and shadow on the web:
Portable programs are smaller, brighter, more affordable
- 30 Mobile microportables
- 32 Live data on the road:
Synchronizing your technology clutter
- 36 Charged up about batteries
- 44 Printing on the road

Man's On

- 50 The network effect:
TCP just laid aside its products that connect your PCs
- 77 Puma PowerBook pads a punch

Tech Enterprise

- 62 Did the Net boom go bust?
- 68 Easing small business e-commerce:
Some Web site solutions for small organizations

Platform News

- 76 Computing at 5 GHz and beyond:
Pentium 4, Pentium III, and Athlon benchmarks our pricing

- 78 Apple News: Newton live update: a boon to system owners

Online & Connected

- 82 Great search, bad karma:
Google's latest tool may not jibe with new privacy laws
- 82 Opera Web browser finally goes free
- 84 Modernized XHTML debuts

Careers & Training

- 88 Office Suite Rankings: word formatting tricks
- 88 Linux for Novices: Part 18:
Word processing in Linux: Part 1

Reader Services

- 100 Classified
- 100 User Groups
- 100 Web Site Marketplace
- 100 Advertising Index



TCP tests small
office networks

—Page 50



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What's in the bag?



While preparing this month's cover story on mobile computing, I was reflecting on the contents of my portable computing bag over the past decade. For most of that period, it has remained refreshingly stable: the basic notebook has gone from a 5.4kg (11 lb) 15in with an eight-inch monochrome screen to a 2.25 kg (5 lb) Pentium III that I can watch DVD movies on. The separate screen is now built into the notebook.

And the accessories have grown up, too. For example—the notebook still has a mouse and mouse cable. Everything has become lighter and more powerful, but the productivity feature set hasn't diminished appreciably.

Over the last year, however, there's been a change in what I want and need to carry with me on the road. One new addition to the list of carry-on necessities is an Ethernet card. The reason: hotel rooms equipped with DSL modems. I first encountered this at San Diego last fall. For US\$100 per day, hotel guests could have high-speed Internet access. I learned from my U.S. colleagues that there are at least two Internet service providers offering DSL links up in various hotels down there. I didn't pack my Ethernet card (it wouldn't fit in the suitcase), but I was able to add a mini-PCI combo card, as the vPro edition and 10/100 Ethernet card are now integral parts of the notebook—just as they should be.

The wireless way

Whereas 802.11b cards may also become a must-pack device, as airports and business travel destinations install wireless access points. The business International Airport here, offering wireless connectivity as an experimental program last spring, and several airports in the U.S. also are working on offering such services.

The idea is that you meet an 802.11b PC Card from the wire for providing access with access at home. You would then have wireless high-speed Internet access from anywhere in the airport within the coverage area.

Since 802.11b is an open standard, you should be able to use and switch computers from different vendors, as if you happened to have your own wireless card, it should work with any access provider with some configuration fiddling. And why would you happen to have one of these with you? Because hotels and conference rooms will also get into the act and begin to install wireless access nodes in their facilities. The will

make the 802.11b card a common connecting device for a range of situations—in the airport lounge, conference center, hotel rooms, perhaps 150m in home and work, and even while applying a little at a coffee bar.

In early January, Starbucks Coffee Co., Microsoft and wireless Internet service provider InfoStor Network Corp. announced plans to roll out high-speed wireless Internet access in various Starbucks locations in Canada and the U.S. this year. (Microsoft offers 802.11b-based services, although the announcement didn't specify which wireless standard would be implemented.)

Customers with wireless-enabled notebooks, handhelds and smart phones would be able to access the Internet without being hard-wired.

If we've experienced high-speed Internet through a cable or DSL connection at home, you know that the online computing experience is generally transformed with as always in high-speed connection. Likewise, these publicly accessible wired and wireless high-speed connections are changing the scope of what you can expect to do on the road. Any business person that requires the comfort of large amounts of data will no longer be hampered by the slippy wireless connection at your hotel room.

All back wireless LANs will cross fully connected business networks, a gateway to the Internet will allow participants of remote users through video conferencing or data transfer whereupon from recommended Web surfing will be viable.

Glitches

Another area that has become a must have in any portable bag is a digital camera. Part of

course is to keep a personal record of my travels. But the digital camera is also an essential working tool. As an independent travel writer, I often cover across continents or across products and the only reliable picture is one I take myself. A different use I experienced with during a cruise that has led me to use

the camera as a document copying device. The pages of text captured with a lens equipped camera were very clear on my computer screen. Technology aficionados often struggle to find a device with several kilograms of press release, so this little maneuvering is a built-in writing alternative.

But it's even more a bug?

And speaking of bugs, writing, whereas in handheld computing, we're ending it possible to diagnose with a notebook one point altogether in some circumstances. Collapsible keyboards allow much typing in a form factor that will fit into a jacket pocket or pants. Expansion slots on your handheld allow you to add modems, Ethernet cards, or wireless datacards immediately.

All that a lot to develop in a pocket-size screen that folds or rolls out flat to standard display dimensions. Kodak, Sharp, Philips and others are working on polymer-based display materials that may result in commercially available flexible displays within the year, according to several reports. If that point you won't need a computer bag, just some wireless products.

Increasing rates ahead.

David Tuckman, Editor



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AZURA

No li resolution

I opened the January issue and I have all other issues I have ever. I particularly liked the New Year's Resolutions for readers, but it has brought up a small pet peeve of my own, so I would like to offer our readers for The Computer Paper. Would it be at all possible to layout the stories and articles in such a way that your faithful readers don't have to keep searching for the multitude of pages that are "continued on page 7?"

That would be my wish, otherwise keep up the excellent work.

Dan Selt

Not amused by polylog

I am concerned about your practice of wrapping your entire publication in plastic in order to include the free trial disc offered by AOL Canada which represents at most about a quarter the size of a page.

We doubt you consider the objections when most CDs first come out and the large packaging they were sold in. It was wasteful to double the size of the packaging just for the shiny picture.

Equally inappropriate is the waste created by the plastic wrapping you are using. If you need to include these discs to make your publications possible, I agree to you to find a

better way than all that plastic.

Michael Macdonald

Connecting cell phones to notebooks

With all the bombast of information about wireless devices (e.g., cell phones, PDAs etc.), why is the wireless laptop market being ignored? Where are the wireless PC-GSM modems from the major manufacturers? Can the existing laptop modems just connect to the cell phone via a cable connection?

Shayne (e-mail: shayne@comcast.net)

TCP reply: We know of a freelance writer on Vancouver Island who paid service to a Toronto

publisher in 1996 using a laptop computer connected to a laptop cellular phone through a special data modem interface, so we can say with confidence that it has been possible to connect a notebook computer to a cellular phone network for data communication for a decade. The connection speeds are still somewhat limited, however.

About five years ago, PC-GSM modems with special cell phone connectors started showing up on the market.

Typically these would have two lines on the bottom, one for a regular RJ-11 phone connector and one for a special cellular phone cable. The cable had to be a cellular phone cable separately to match the connector on the phone. Today, this is still a common way of connecting a notebook to a wireless (cellular) network, with adapters available for some Palm and PDA-type phones.

The other method is a PC Card that actually has a wireless transceiver onboard. Motorola, Huawei, and Lucent Networks make these devices—they look like a regular PC Card, but have an antenna on the circuit board. The wireless antenna. This has worked with some prior phones in and around Vancouver to supply police cars with network computers and network modems.

Celebrating MP3s: our issues

This is to let you know that I am a big fan of The Computer Paper. I don't read it all, but I know that with each I searched up some CD or other interesting with MP3 capabilities. This is an issue about CD-R, MP3. I can play MP3s recorded on CD-R and also CD-RW discs—and of course regular audio CDs.

As far as I know, it is not available in Canada yet. I bought my copy once recently in California. I paid US\$29.95 and I am very happy to have it.

Joan Lopez

TCP reply: Thanks for the tip. We're sure portable CD players that also play MP3 files, but you are the first to report one (connected with a car stereo). ☺

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IBM, Intel developing next-generation chipsets

LOS ANGELES, N.Y.—B&B 128 (bbs.bnet.com) and Intel (intel.com) have developed a new generation of chipsets that are reportedly at least 30 times more powerful than current microprocessor designs.

IBM says its next microprocessors will complement its server arrangement with Intel's technologies by developing better server chips for introduction in a 2001 or 2002 timeframe. The first crop of Intel microprocessors, however, should be available by the end of 2001. By then, says

the new chips, which are based on a technology called QSG (complementary metal oxide semiconductor) 90, has allowed IBM to craft chip layouts down to as small as 0.13 microns—around 90 percent of the size of current chips.

Now the bad news. Even with numerous accolades, IBM says the advanced chipsets will still not be around 2001 Q3—around the time the volume price of the latest Pentium chips.

—Anandipati



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Lights and shadow on the wall

Portable projectors are smaller, lighter and brighter—and becoming more affordable

by Russ Macdonald

Portable presentation projectors are gradually becoming less of a luxury item as entry-level prices start to level around a mere few grand. The reason why has stemmed a digital color dose of life will have evolved not only that there is a proliferation of makers and models, but that the old players, the industry veterans, are focused on who can make the smallest, lightest, and brightest projector while staying within their 10,000-buck limit.

At the same time, projectors come in two basic flavors: liquid crystal display (LCD) and digital light processing (DLP), each of which has unique advantages and trade-offs.

LCD projectors come in two LCD panels—one each for red, blue, and green—into which the computer-generated image is created before being combined into a single image by means being projected through a magnifying lens. Many LCD projectors use what is called reflective LCD technology, in which the image is projected onto a reflective screen, then through an LCD panel to add color before being projected through the lens. The result is a high-quality image from a small and light machine with the potential to be transformed to a standard production lens.

The advantages of projectors using LCD technology is that they can cool and there are no moving parts, which generally makes the projector more reliable and silent for travel. They also project an entire, consistent image from edge to edge with good color saturation, thanks to the multiple panels.

The main disadvantage is that they cost a small, but light as the projector that use DLP technology. These projectors are based around a single chip called the DMD (Digital Micromirror Device) which was developed by Texas Instruments. This chip has millions of micro-mirrors built directly onto a wafer each mirror representing a single image pixel. The mirrors have a mirror that can be tilted at different light as directed by the computer to form the image.

The advantage of using DLP is that the reflective technology makes for brighter images, and the chip-based design makes for lighter projectors.

On the down side, DLP models are very hot and must be allowed to cool for some time before use after your presentation is over because the light absorbed they are to prevent the light gets very hot. DLP also has potential for image retention when to generate this image is moving fast.

Frank Kato is LCD product manager for Sharp Canada, which manufactures both LCD and DLP type projectors. He explains that the primary reason projectors are getting smaller and lighter is not due to specific tech-



Sharp Projector

nological advancement, but instead to an increased ability to integrate more components onto integrated circuits.

He cites one of Sharp's newest projectors as showing how things are evolving in that market. "We're going to the point with the new low projection units that they're reaching a consistency with level of sales. For example, our streaming machine is called a PG0015-S for the SVGA. But for price for that it's \$5,500 for that size of weight and brightness—21 to 800 ANSI lumens projectors—really a pricing into the affordable range in terms of business use. Probably the closest equivalent to that would have been in the area of 10,000 to 141,000 with a couple of years ago."

ANSI lumens are the method by which luminance is measured for a projector. The higher the ANSI lumens number, the brighter the image will be in larger and/or more brightly lit rooms. Though it's a measure that is difficult to imagine without visual examples it's fair to say that the 800 ANSI lumens is adequate for a normally lit center room room with a ceiling height of up to a dozen people. A classroom situation might require 600 ANSI lumens.

Unfortunately, brightness requirements are influenced by a number of variables including how much content of lighting you have in a given room, the surface onto which the image is projected, and how dark or light a room is like to be as you make your presentation. A good rule of thumb is to get a bright projector as possible so you can handle a wide variety of situations.

The market

Robb Green of the price-oriented site *PriceWatch.com* says that the three business use segments—these projectors are being used more and more by the sales person, who must to put a PowerPoint presentation up on the wall for drinks and customers. Many users also want to do some type of video presentation—training tapes, for example—which they can use with the technology.

Don Cameron, manager of marketing com-

munications for Epson/Canada, says the market for portable presentation growing at the present time.

"When we're representing at Epson over the last 12 months is pretty explosive growth," he says. "And we know that other brands are representing the same thing and that is going to increase as being proven because all the major companies, when purchased in greater quantity and assembled in factories in larger runs, means getting off country in Canada right now, we're still at least low numbers in sales but each 10 percent increase in sales results in a decent efficiency and cost savings."

Cameron notes that the market expansion is driven by a couple of factors in expansion in laptop computer sales and a higher level of user knowledge about what end-user projectors can do. Like Kato, Cameron says more data sales and marketing people are the primary market for projectors.

Shopping tips

The typical brightness rating for the current crop of portable computers is 800 ANSI lumens. SVGA quality resolution is also typical. As projectors resolution obviously falls below the abilities of laptop computers, there is currently a compression toward DLP projectors, which are now coming into the market. But these are new and considerably more expensive—\$7,000-plus—at this time. Also, be aware that for most purposes, SVGA is adequate. Microsoft PowerPoint presentation software, for example, runs at SVGA resolution, so VGA wouldn't offer any enhancement.

Although projector manufacturers all rate their projectors brightness as ANSI lumens there is a great deal of variation in how that brightness is measured. The best way to check the brightness between machines is to see how many slides working side by side.

Bulk brightness is the key influence on size market's ANSI lumens rating, but bulb durability is a big factor in deciding which projector to buy. Bulbs cost and spread all kinds, so you want to make sure your projector can use long-life bulbs.

When the bulb is the one component that you are going to have the most "interaction" with during the course of using your projector (for, if the projector doesn't come on when you turn it on, it's more likely to be a problem with the bulb).

In addition, marketing managers for general users products for Sharp/Canada has led to a new bulb. "New technology has allowed bulb manufacturers to make their products a little bit smaller with a little of higher performance. The previous standard technology was metal halide—a very poor bulb type as far as reliability goes, but now Philips developed UHP (Ultra High Performance) technology, the bulb has become very reliable."

"There are still some models of projectors that are metal halide bulbs, but the buyers should beware of that. I wouldn't go near it. Metal halide has poor characteristics like brightness decay and colour temperature changes and even though they may be rated for a long life, they're not suitable for all of that, because the colour temperature deteriorates drastically throughout the life of the bulb. DLP bulbs are consistent throughout their rated life." The rating that Sharp refers to is standard industry—usually 10,000, but can go up to 2,000.

There are differences in connectivity and you'll find a quite variety at the entry level. What you'll see is a VGA connector, a D-sub port, video connector, S-Video connector, and audio video connectors (shared across the three ports). As you move up you'll find analog of both type of connector to be economic, more sophisticated, presentation. This feature is not only a means of keeping the weight and price down, but also improves the the target market is the laptop/PDA/PowerType users who would require sophisticated multiple-driver bandwidth in the projector. You can, of course, connect a video source and a computer at the same time but you'll have to disconnect the single audio video, for example, from the one and plug it into the other when required.

A new feature you'll notice is portability is a digital version of the VGA connector called DVI (digital visual interface).

It is anticipated that DVI will become a presentation standard, but it is currently unable to drive images through a cable of even modest length. Analogous VGA connectors can now safely push images through good quality cables up to about 21.5 m (70 ft) in length. Being digital, DVI is restricted to very specific cable lengths of up to about 4.5 m (15 ft), then 30 m (100 ft) longer and you lose your signal.

However, you have to make sure that the signal carried through VGA wires as digital, as is used to analog for transfer in the projector, they converted back to digital. The DVI advantage is that it skips all that by keeping things digital all the way, resulting in a cleaner, crisper image on the wall. The appearance will be more apparent when projecting from a DVI source.

As noted, as more to access DVI your laptop users have the option to use the projector. While it is allowing up to more bulb and projection, laptop manufacturers are slower in adopting the interface. It's possible a DVI (digital) high-level connector specifications based on a product, it is a new standard technology for general based plasma screen.

A comprehensive list of shipping tips, presentation tips, and even how presentation templates are available at <http://www.presentation.com>. □



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What's New

Continued from page 14
promotional programs.

"This is a very helpful day for a company like ours," said Nathan Neuberger, Intel's chief executive officer. "We welcome Raynor's commitment to protect the interests of artists, songwriters and other rights holders through their new business model, and we will support any activity that provides for fair compensation for everyone involved."

In October, Behrman & Berenson filed for the largest licensing company, joined in a lawsuit against Raynor, C&P Asset Rights, saying it would stop its share of the copyright

protection, copyright infringement lawsuits. Licensing networks could be used to a limited extent of licensing.

The other major defendant, New York Music and Warner Music—have yet to publicly state their views on what is on the line.

That case is currently hanging as a decision from a federal appeals court in California that would determine whether Raynor will have to abide by a preliminary injunction issued by a district court in July, that asking singer a halt to record-making until the lawsuit was to any through trial. However the injunction was stayed for the appeal.

Raynor and Behrman & Berenson have yet to

present exactly what his idea there are the to be up to Raynor's previous service. Behrman & Berenson has agreed to have Raynor's rights retained to be at least 50% of the total that could be awarded into an ownership stake if the for his services is planned.

—Brendley

E-book market boom predicted

MARKET-804 Inc.—held in its year best cover, books are going digital. According to a new study released by IDC, this (e-book) is a company that leads technology and a business book, forecast for e-books will build clearly in

2001, over half expecting in 2001. IDC predicts the market in 2001's share will increase from 0.04% in 2000 to 0.04% in 2001. Consumer electronics of digital books will get a boost from technology of e-books in the device people will use to read them, and Amazon.com's reader might be the eBook player.

"Books will be read on Palm PDA and Pocket PCs," said Neuberger. "The later versions of Palm PDA PCs [personal digital assistants] have more features and better screens. They are becoming more like information devices. They are becoming entertainment devices. Pocket PCs are becoming the same way, people are using them in music devices, with book reading. They show a lot of volume quickly which books don't in books," he added.

Neuberger said and themselves will be to books because they change very fast, Neuberger said. "By 2002 or 2003, there will be a revolution from the people who are used to reading digital textbooks at portable devices. They will want to buy other books to take with them." Several factors will drive the growth of the digital book market, Neuberger predicted. One of the factors that will drive it is the fact that millions of consumers are looking for a better solution to the problem of the Internet where you have always to be available. "We think will over go out of print," he said.

The addition of more books that may previously have been rarely or rarely available would mean more content to drive the book which could be in fact almost 100 million, Neuberger said.

"The main factor will be the standardization of, probably, the platform. Amazon's PDF and Microsoft's PDF is continued. The big thing that pushed online music forward was the standardization of MP3."

While the music industry's digital book business is not likely to grow, he said, Neuberger said he saw a growing range of books and magazines and placing them in the Internet, mostly because the best digital reading technology has a few recent books like "Publishers are much more proactive about attacking this market than the music industry was," he said. "They know that traditional books are often sold by multiple similar ways, so they are looking into creative ways to monetize the ways when a book is purchased online."

BC and Intel. Amazon.com and Barnesandnoble.com have made deals that will facilitate the market for digital books and e-readers promising according to Neuberger. Pricing of demand will grow more quickly than eBooks in the near term, but will not be as big in the long term.

"There will be no retail impact because there is a lack of unavailability throughout the world," Neuberger said. "There is a demand for a book like a book about the [e-book]," he said. "The use of on-demand in bringing a book (e-book) will be 2005. A few years from now however, we will not need it as a separate market from a book is any more."

—Brendley

Buyer's Guide

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Viable microportables

I may have to shed my longstanding disaffection for palm-top computers. I prefer a keyboard, even a tiny one, to the fiddling with various hand-helds and their tiny keyboards for a large part of the last decade. But the Stowaway keyboard changes everything. The collapsible keyboard was announced just over a year ago by developer Mike Gubish (mike@newline.com) of Salento Beach, Calif., and is now available for Palm Computing and HandSpring devices, as well the

Pocket PC-based Hewlett-Packard Jornada 440, Novartis for Cere's Compaq and Compaq's new Pocket PC in the works.

The Stowaway keyboard is made up of four longed sections that fold up into a package just slightly larger than a Palm or PocketPC device at 2x2x3 1/2 in. (3 1/2 in. tall), but unfolded, it is a full-size keyboard with surprisingly good tactility.

Since each palm-top manufacturer uses a different connector design, separate versions of

the keyboard have to be created for each with the correct fittings along with platform-specific keys.

Palm Computing (<http://www.palm.com>) sells a version of the Stowaway for its Palm OS and e series, while Treo (<http://www.treo.com>) is distributing two models—one for the HandSpring Treo and the other for the HP Jornada 440 series. They cost about \$200 and weigh just 220 g (8 oz.). Palm includes a padded case with its models.

They all work the same way. You push a clip to release the four sections folded up together. Then it unfolds, and the outer sections of the keypad (in which bridge the keys



The Stowaway keyboard, shown unfolded with HP's Jornada 440 (above) and HP's Palm OS e series.



together and also locks the sections, flip up the wire computer support and connector, and fit the hand-held device in place.

You must also load the keyboard's driver software onto the palm-top, but after that routine operation is done, you have a full-size keyboard at your disposal. Unfolded, the keyboard is not entirely rigid as its best to use it as a solid surface.

A device like the Jornada 440—with its built-in ColorPlus card and software suite—has the semi-compatible with Microsoft Office—

becomes a powerful computer with a usable keyboard and lots of storage space, yet the hand-held and keyboard can each still fit into a jacket pocket or a purse.

And thanks to software developer D. A. L. V. (davy@newline.com) and its Documents to Go application, Palm users now also have good compatibility with Office documents.

I know of one consultant who needs to check various assets (to avoid actual hold-ups). Before, she used to load her Excel spreadsheet onto a notebook and log it to the client's site for the audit, or work with a printer and manually key in the changes later.

She recently installed Documents to Go, then imported the appropriate local spreadsheet into her Palm OS. After doing work at the client's site, she then simply synchronized the Palm with her desktop PC to update the spreadsheet.

The biggest difficulty she encountered was using the Palm's stylus for extended data entry and navigation, but even there she now leans on the Stowaway keyboard.

—David Thoms

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Live data on the road

It's all very well having copies of email, text documents, and spreadsheets on your mobile devices, but how do you avoid synchronization clutter?

By David Woodhouse

Call it what you like, but if you work with data on the road, you've experienced synchronization clutter. That simple phrase may have one version of a document on your desktop and another on your mobile device, and then you have to go through a tedious manual synchronization process to sort out which document is really supposed to be there.

In an ideal world, you would simply work wirelessly using "live data" that is permanent, is stored on the Web, thereby eliminating the need to synchronize one device with another. In that way, you only ever work with a single copy of your schedule, your address book, your documents, and so on—and that data is accessible from whatever device you are using.

Where do you put it?

There are now a variety of ways to achieve the goal of working with a single copy of live data. One of the new ones is simply to store all of your key data on a Web site designed for that purpose. Realizing the power of this idea, a number of companies have created online personal information storage tools over the past couple of years that range in complexity from simple email and address book functions right through to calendar and file storage.

One of my favorite ones for the purpose of Web file synchronization, which I have used for more than two years as a real test for storing and accessing live data, Visto offers almost everything you typically would find in Microsoft Outlook or Outlook Express, while also providing the ability to synchronize data from either of those products (along with several other popular personal information management products). It can also be used from Palm OS and Windows CE devices, as well as a variety of mobile phones.

Oh, and did I mention it's free? That was a major attraction for me. But it is also highly functional, offering the old adage of "you get what you pay for." To start with, Visto not only handles mail via a free email account, it allows for "collection" of mail from your



other email accounts. It even supports separate email collections (including read and sent) and exports from Microsoft Exchange and Lotus Notes—more can look at all your email in one place on any device that has a Web browser.

It is technically sound enough that I use it on many of the functions of Visto from within the Internet Web browser that comes with my 10" Jornada 950 Wireless CE-based handheld computer. When I edit a CDFD (colorful digital packet data) network card, such as the latest Wireless AirCard 300, use for me, I reach something of a "holy grail" wireless access to live data.

Unfortunately CDFD access is available in all areas of Canada. It is also not the only way

data access service that you can look up to a handheld computer. At any rate the central principle remains the same no matter whether I am using the built-in phone-based modem at the Jornada or the AirCard 300. I work with a single, sometimes copy of 300 data that lives out on the Web.

Now this system (and others like it) also allows for some measures of synchronization on the basis that you are not always going to be able to easily connect to the Web to work with your live data.

In the case of the Jornada, this compromise makes a great deal of sense. It is much quicker, for example, to flip open your Jornada switch it on and immediately change an appointment, address book

entry, or check off a quick email than it is to connect to the Web Web site wirelessly.

In the speed, reliability and availability of wireless data access technology improves, of course, the need for synchronization should disappear—and it will be put in quick to work with live data as it would be to work with local synchronization data. Until that time, however, most people are likely to want to have some sort of local copy of their data just in case they cannot connect to the Web at a given moment.

On the rise of technological change

The wireless I outlined above are not unique. They are also at the core of new services from Wireless-based Research In Motion (RIM) for its line of BlackBerry wireless email/Web devices. These devices, which started life as two-page two-way pagers with email capabilities, have captured the imaginations of many "early adopters" and are now widely available in Canada from both AT&T Wireless and Bell Mobility.

AT&T Wireless offers both a BlackBerry Internet Edition for customers as well as a BlackBerry Exchange Edition for corporate users. Both operate on the iRnet AGENT Mobile network. The RIM

950 is one of a standard pager while the 957 is closer to one of that of a Palm handheld device. In both instances, the RIM users either users to read, forward, file, reply to, and/or quote email messages, while keeping a copy of all those messages on their device or network email client (such as Microsoft Outlook). While RIM's wireless handhelds only offer monochrome displays, they do provide full support (albeit with tap) keyboards and a touch-screen "trackball" for navigation.

No you would expect, the Microsoft Exchange Edition of the AGENT Wireless BlackBerry offering applies to other wireless handheld and includes email/pager software, a PC docking cradle, PC software, and

Continued on page 34

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Live data on the road

Continued from page 52

your server network, and *extensible* in time. The company is also offering single wireless integration with existing notebooks and "advanced security that meets stringent corporate guidelines for secure email access."

Meanwhile, Bell Mobility's latest RIM package is based around the more powerful RIM 103, using Bell Mobility's 800 MHz AIRIS wireless data network.

Includes wireless email, calendar, address book, task list, memo pad, calculator and more. It can also be synchronized with a PC using a docking cradle and Palm Toldbridge's built-in software.

Using the RIM 103, you can also get wireless Internet and internet access is information on the Web and corporate networks using tools such as Novell's VAP-based microbrowser and Bell Mobility's Mobile Browser service.

Having used both RIM devices, I conclude that they go a long way toward the goal of being able to wirelessly work with live data. But they are far from some of what you can do with this data.

Unlike the analogies you achieve when working with a wireless network card and a notebook computer, when you access data with a full-blown Web browser and comprehensive email client, working with data on either the BlackBerry 5810 or RIM is reminiscent of a computer. You can't, for example, do much with attachments in either of these devices because it's really not practical to store them locally.

In addition, the Web browsing capabilities of the BlackBerry 5810 are somewhat limited and require you to look at pages that are optimally configured for viewing on the device. These are typically pages

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written in accordance with WAP (Wireless Application Protocol) and WML (the markup language associated with WAP) standards.

At the end of the day, however, both of the RIM devices do a great job of quality control, and easily allowing you to work with the live data that is likely to be the core of your working life.

Having wireless access to live email, address book, and scheduling data is a huge improvement over the situation in which you have one copy of each data on your desktop computer, another on your notebook computer and a third version on your handheld.

It's up to you

There are more a huge number of different ways in which you can work with live data, but the choice that is right for you will depend on which sort of compromise you want to live with. If you are willing to take the time to visit for your notebook computer to lead up Windows—and then connect wirelessly to your email provider with a wireless network card—that may be a fine solution for you.

If, on the other hand, you prefer an "always on" solution that may limit you in the handling of attachments or the type of Web pages you view, you may want to opt a Palm device with wireless connectivity, a RIM device, or a Windows CE, Pocket PC, or other handheld PDA.

But if you merely need to work with live data on a wireless Internet-connected clock top, a handheld computer, handheld or Web-enabled mobile phone designed to be hands-free, then a service such as Vtext is probably a great solution. It is an effective way to store all your live data in a location-independent manner, but it does require that you have an Internet connection to access it. ☐

SynchML unveils specs for universal data synchronization

LONDON, England—Just a year after the industry initiative was first announced, SynchML (SynchML.com) has taken the steps of the final specification for the universal data synchronization technology.

The initiative—while it being sponsored by Citicorp, IBM, Lotus, Netscape, Motorola, Novell, Palm, Pines and Sun Microsystems—has taken the steps of the SynchML 2.0 specification, which is aimed at "providing tomorrow's synchronization technology for today's mobile users."

In addition to this specification, the SynchML initiative has also released a SynchML Reference, which is a code, including comments to clarify how SynchML can be used in the market.

Tad Burt, the initiative's vice chairman, said that SynchML offers full interoperability among mobile terminals and server infrastructures, something that is a fundamental requirement in the successful deployment of mobile Internet services.

"The entire industry will greatly benefit from the success of SynchML," he said.

Founded in February 2000, the SynchML initiative is now being supported by over 100 device manufacturers, service providers and application developers.

The aim of the new protocol, which was developed in just under 10 months, is to provide and users to benefit from immediate synchronization of email and other office applications via mobile devices.

One of the most interesting aspects of the SynchML specification is that it allows for third-party data synchronization.

For the launch of the specification in London in late December, Citicorp and the Wireless Application Protocol (WAP) technology is demonstrating wireless SynchML applications.

Successfully, SynchML is an open standard, capable of working across platforms, networks and devices in both the wireless and fixed-line environments.

For consumers, this kind of universal mobile data synchronization means email, calendars, to-do lists, address books, and other desktop data access easily on a large number of network devices in part time use.

This means that, for example, a calendar entry made on a desktop computer would be immediately accessible by a wireless device, synchronization state data would be identical, inherent, or table system.

Jim Klotzberg, vice-president of marketing with Citicorp, said that this kind of interoperability is critical of the industry is to deliver to consumers an exciting new technology as a relevant and usable tool.

"SynchML is another example of how collaboration among industry leaders can advance the market by addressing the needs of users," he said.

—Brentley

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In and Out: What

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1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

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Statistical Analysis

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98	7:00-7:30	News	ABC	\$100.00
99	7:00-7:30	News	ABC	\$100.00
100	7:00-7:30	News	ABC	\$100.00



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Printing on the road

By David Huxton

Portability has its pros, and one place where that is possibly evident is with portable inkjet printers. While you can use a good quality inkjet inkjet printer for \$100 expect to pay three to five times as for a portable model. Besides the cost premium, you'll find great specs that are on the close to making sense, and ink cartridges that are on the small size. But offsetting these drawbacks, you'll get small dimensions, reasonable weight and reduced dependency on bulky power or power cables. So, if you really need to have colour printing on the road, here's what three manufacturers can offer you.

HP111Cdn

From Hewlett-Packard Canada
<http://www.hp.ca>
 Standard street price: \$109 (a model without their built-in Wi-Fi, but in standard street price \$109)

BC-15

From Canon Canada
<http://www.canon.ca>
 Standard street price: \$49 (a street price in the US)
Ducktail 12800i
 From Hewlett-Packard Canada
<http://www.hp.ca>
 Near \$100

Size and weight

The Canon and Brother models are within a few centimetres and grams of each other. The

Hewlett-Packard is heavier and larger, and although it is much smaller than even the smallest desktop inkjet printer, it doesn't offer the other two portable models, being 127 x 113 x 31.1 (mm) and almost 6 cm (2.4 in.) taller.

The Brother and Canon units will easily fit into the water pocket of a laptop or messenger bag, but the HP won't—your's and a dual cavity bag to cut it around. But the HP obviously looks cleaner than the others too. HP claims the unit has been drop-tested from 75 cm (25 ft) to the floor (it's not a lie) but has something to do with that.



The HP Brother 111Cdn (top), Brother WF110 (left), and Canon BC-15 are three mobile colour inkjet printing solutions.

Table of the top dimensions, weight

	HP111Cdn	Brother WF110	Canon BC-15
mm	127 x 113 x 31.1	127 x 113 x 31.1	127 x 113 x 31.1
g	109	109	109
kg	0.109	0.109	0.109
lb	0.24	0.24	0.24
oz	3.9	3.9	3.9

Paper handling

All three printers are available with detachable paper holders that hold sheets 90 sheets. The Canon comes standard with the HP and a 100 sheets with the Canon. Brother offers two models, one with and one without the sheet holder, the latter is the HP111Cdn being about \$100 cheaper.

If you intend to print multi-page documents on the road, the sheet holder is a worthwhile option, even though it adds bulk and weight to your load. We found that the Canon's sheet holder is slightly more to use without a sheet holder, than the Canon.

The HP and Brother printers are upright designs, while the Canon is flat. The Canon's strength through horizontal paper path will keep your printing to a minimum.

but one more disadvantage of this design is that you need a letter size disk space both in front of and behind the printer. Given the small narrow disk you typically find in hotel room-size bags, this might be inconvenient.

Connections

Here we find the most variability. Based on real experience, the HP 111Cdn is usually a 400 MHz with an interface option. The HP offers USB and Fire 1394. 1394 connects to a two parallel system on the model, but the older HP 111Cdn does have a parallel port, and comes with drivers for both Microsoft OS (9.0 or newer) and Windows (95, 98, Me, CE 2.11, and 2000). Windows 95 users should be aware that they will be able to use the printer only through the network port as no USB support is offered.

The Brother unit is parallel port only requiring a special cable, since the Canon has the printer to use a standard parallel port. The unit can also be used with a special PC Card that installs as a second parallel port. The PC Card connector also supplies power to the printer.

Although the HP printer has a single parallel port, it offers Macintosh and inherent connectivity through add-on cables at the rear of the Mac, or an external interface.

Both the Canon and HP models include a battery pack so you can use the printer with you being away from AC power. You can also use the battery pack with the HP model.

Continued on page 18

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The network effect



Networking is no longer just for big companies. TCP Test Lab looks at products that make it easier than ever to connect your PCs at home or in a small office.

By Sean Connolly

Networking is a pretty scary word for a lot of people, because it implies a certain level of technological know-how that just doesn't mesh well with the average home or small-business user's knowledge base. Networking is something you do in big offices with a lot of computers, right?

Not anymore. Once a small business or homebased consultant has a few computers, connecting them into a network holds many advantages. For work, you can share physical resources, like printers, and important data like contact lists, schedules, and work files. While file sharing might not be the biggest priority at home, being able to share a single printer or copy data from your games onto the homebased network can be a compelling reason for getting one up.

Then there's shared Internet access. This is one of the best reasons for considering a small office or home network, particularly when high-speed access through DSL or cable comes into the picture. In Canada, high-speed Internet service providers have focused primarily on residential service. This has been good for home-based businesses, but not so great for small companies. However, that's changing as cable providers like Shaw and TEL provide like AT&T, Look, and others develop high-speed pack-

ages for small business that are more affordable than the \$2,000 monthly fees typical for T1 business lines.

How hard?

In the past, networking was something that only skilled professionals did, and even then it was a certain amount of troubleshooting, blood, sweat, and tears. In the technology jobs were necessary to get everything running smoothly. There's no denying that setting up a small local area network (LAN) is somewhat complicated.

Connecting a LAN to a high-speed Internet connection adds another layer of complexity. This could involve setting up your PC as a server or proxy and directing all the requests from the network's other PCs through it, or using a dedicated Internet sharing device.

In either case, a basic knowledge of networking is necessary for first connecting all your PCs together, then connecting the LAN to the high-speed service. The good news is that a lot of the networking bits and networking devices make it easier than ever to get through the setup stage.

Most of the products we looked at the month could walk you through the steps you take through the entire process and get you up and running almost instantly. We've divided these products into two main groups:

network products and Internet sharing devices. The network products have been for four integrated wire-based and wireless technologies.

Networking Ethernet

When most people think of networking, they think of cables strung around computers, and that's certainly been a big component of networking. The same Internet networking infrastructure that has been the backbone of business LANs of all sizes is now being packaged into kits to connect two or three computers, with easy-to-follow instructions for installing in a home or small business.

3Com HomeConnect Ethernet Kit

Part #4000000000

Kit comes from prepackaged, prepackaged pricing: \$199

- Comes with two 10/100 Mbps Ethernet cards (PCs), two 25 m (82 ft) Category 5 Ethernet cables and a prepackaged 10/100 Mbps dual-speed Ethernet hub
- Software includes HomeConnect networking, a Windows 95 upgrade CD and a Network game sample
- Internet Connection Sharing software is included, and software installation occurs through the setup
- Compatible with Windows 95/98

If you have two Windows 9x PCs with empty



PCI slots, the 3Com HomeConnect Ethernet Kit provides pretty much everything you'll need for a home network, including the cards, hub, cables, and software updates. One caveat: While the kit doesn't address the needs of Windows NT/2000 users out of the box, which is unfortunate considering NT/2000's compatibility for networking. Hopefully drivers will become available for those OSes (at present there were none available in the 3Com kit) so users with networking skills can mix and match between different versions of Windows.

For the Windows 9x users, setup is fairly quick and easy. Plug in the cards, test the drivers, then install the HomeConnect software, and you should be up and running. The software's graphical user interface makes it easy to determine the status of your network and get information about other devices on it.

Continued on page 56

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Brand
name

Celeron 400 \$ 699

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The network effort
Continued from page 68

HomeRF

HomeRF is another wireless networking technology (described information about it can be found at www.home-rf.com). The HomeRF was we looked at this month had a top speed of 1.4 Mbps, just slightly more than the slower speed of the 802.11b solution. The main advantage of HomeRF over 802.11, however, is that it is a lot cheaper.

Intel AnyPort Wireless Home Network

Intel AnyPort

<http://www.intel.com/anyport/products/home/>
Suggested retail price: \$199 (Intel AnyPort PC Card)



- Connects other 802.11b PC Card interfaces
- Uses 100 mhz for communication with a maximum speed of 1.4 Mbps
- Suggested \$199 (Intel AnyPort Wireless Home Network PC Card)
- While it is possible for PCs to share wireless connections, you may find a lack of throughput for as the AnyPort is designed to function as a router that is responsible for routing connections to the same host.
- Also to HomeRF, but seems to not just like with Windows XP.

We had a general wireless PC Card and we USB model the USB model attached.

smoothly but the PC Card gave us a ton of grief as the first network card. The second network card, though the Internet sharing software package generated some virus and corrupted it as a result.

The shared drive also appeared as the My Computer icon of the other PCs on the various networks, but transferring data had a few hiccups. During installation of software on one PC, using the CD-ROM drive on the other for the source, we encountered a few CRC (cyclic redundancy check) errors on some of the data, and transfer speed was extremely slower than it would have been using the target machine's own CD-ROM drive. Following backup of the network to the LAN (Internet Sharing worked A-OK), and though the speed of the connection to the client PC was not as fast as the server (the network), it was still reasonably good.

We tested software on the net and the other wireless setup for streaming audio from the PC host, errors in the network, nothing down the hill and the signal disappeared. While we didn't get the full 40 m (100 ft) of the AnyPort is used for, seeing to extensive amounts of data in our testing, we got between 24 and 30 m (80 and 100 ft). For use as a router that is made mostly of work, a range closer to the 40 m rating would be more likely. In any case, users in most home or small offices should be able to access the network throughout most of their premises.

Internet sharing

As more people discover sharing Internet access for broadband solutions like cable

Continued on page 74

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but both estimate that the B2B market is at least five times the size of the B2C market. Both have the online B2B market growing at \$1 billion annually within five years. The difference between B2C and B2B is not just the size of the market but also the nature of B2B transactions. B2C transactions are usually with hundreds if not thousands of consumers, whereas B2B usually involves a few hundred customers and suppliers (if not just dozens), and much of that is repeat, repeat business. In addition, B2B often requires a lot of customer work (changes of schedule

and products), which is critical thinking in a number of industries. The volume of business can be anywhere from small to huge with lots of transactions.

Already customers and suppliers have set up electronic data interchange (EDI) and inventory links. The same effect of the Internet has been to standardize these links and make them much more comprehensive by integrating with supply chain management (SCM) and enterprise resource planning (ERP) systems.

The results have proved spectacular for

many companies. By converting to all Internet billing, IBM not only reduced its costs by millions of dollars but also reduced the complexity and wait time for its suppliers by 30 to 35 percent. Office for General Services, which is now picking Internet-based SCM systems across all its many divisions.

But like B2C, B2B is not without its own problems. Mixing up different systems and different operating systems, databases and even business applications (how installation of SAP is not the same as more) is not

easy.

And of course venture capitalists, seeing the B2C market drying up, have poured money into B2B initiatives—especially industry exchanges that sell more capacity to their members or end-of-lifecycle-of-a-kind products in various industries like domestic food processing, engine building, metals, and mining. Unfortunately, the high gold rush has been shorter and more volatile, but also loaded for an extraordinary return. But the Internet software has been pretty

Continued on next page



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Reeling small business e-commerce

Continued from page 48
 drops to about 16 percent for those with 20 to 99 employees, 71 percent for those with five to 19 workers, and 80 percent for those with fewer than five people on staff. Based on these figures, the CIBB estimates that about 400,000 of Canadian businesses are online.

These figures are a refreshing change from a couple of years ago when some analysts were saying Canadian businesses were too slow in embracing the Internet. Still, there remains a gap between those using the Internet in its business-to-business (B2B) work and those trying to reach out to con-

sumers. The CIBB study found that businesses trying to serve the consumer market have the lowest Internet activity. The study found that only about 60 percent of retailers, hotels, and restaurants were using the Internet to reach customers.

Part of the reason may be that many small businesses still find it difficult to use the e-commerce solutions that are on the market. Trying to build a Web site and online catalog can be overwhelming. This difficulty can be compounded when a smaller business doesn't have the in-house technical expertise to make sure that everything is properly integrated.

E-commerce in a box

Vancouver-based Multistore Software Inc. (<http://multistore.com>) was aware of this particular problem early on and developed an out-of-the-box solution to help small businesses get on the Web and start making some money.

Multistore's eSolutions gave out of development work for its Multistore contact sales representative. Multistore's solution included a product called Market Builder, which was designed to provide a quick and easy way for small and home-based businesses to create and maintain a Web site.

"After quickly becoming apparent one that a

Web site was going, but would it not be possible to sell stuff online?" says Stephen Brooks, vice-president of marketing for Multistore. "In 1996 we took that issue and in 1998 released the first version of eSolutions from a separate product that allowed you to build an online site with a catalogue and give you the ability to process credit cards online."

Recently, Multistore released eSolutions 3.0, which gives small businesses greater flexibility in how they design and maintain their online storefront. The package comes with 10 graphical layout configurations and a webmaster interface so users don't have to know HTML, allowing to build their site the more technically advanced can still access and interact with the underlying HTML code.

An important feature for many small businesses is eSolutions's inclusion of real-time online credit and processing. Businesses will have to obtain a merchant credit card account separately. Other features include a built-in shopping cart for order tracking, and the ability to maintain a 30,000 item catalogue. For additional security, eSolutions also grants SSL security and digital certificates that comply with the e-Sign standard.

Brooks adds that while many small businesses have been turning to eSolutions to operate online, a growing number are turning to third party developers to do the work for them. Because of that trend, Multistore launched the eSolutions Developer's Edition in October, which is aimed at Web site developers and comes with features such as multiple currency support, customer relationship and order management functionality, templates in XML, and reporting in XML.

Small businesses using eSolutions have the option of having their site hosted by an ISP or by Multistore, the difference being that with an ISP, an online store can remain more dynamic since Web Multistore, the store's database is linked with Multistore's.

In its continuing push into the small business market, IBM (<http://www.ibm.com>) has also released an all-in-one package to help launch an online storefront quickly and easily.

Ed Kilroy, general manager of e-commerce software and solutions for IBM in Canada, N.Y., says the company's suite of WebSphere tools grew out of its earlier Net.Commerce work (see sidebar) to get businesses online and for commercial applications.

"We progressed with a lot of functionality and we have continued to enhance the [WebSphere] product," Kilroy adds. "It incorporated all of the components that were to participate with commerce on the Web... like the one-stop shop for a selling our product at Vancouver [but also] could collect them on line at IBM and WebSphere on-line [that can run]."

IBM offers several versions of its WebSphere product. The Start Edition is for businesses that want to get up and selling on the Web quickly. It allows businesses to customize the way customers shop on the site and to determine methods of payment. It includes a catalogue version that is an alternative interface for creating features made in real-time online status and inventory checking.

Kilroy says the advantage of WebSphere Start Edition is that it is standards-based, which makes it very easy to use. It also comes with a DB2 database that helps small businesses organize products for a catalogue and a way to update. This means the small e-commerce store is purchase a separate data base, which may be more an enterprise will wish to offer a separate solution.

Continued on page 50

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Hands On

Lab Test • Hardware Evaluations • Software & CD-ROM Reviews

Pismo PowerBook packs a punch

FireWire enables perfect portable video-editing solution

By Peter Hirsch

According to many market research firms, portable computing has become the fastest growing segment for new computer purchases. After spending more time with Apple's newest portable offering, the PowerBook M60 M60 G3 (also called Pismo), it's easy to see how it could now wish to become part of that statistic.

PowerBook M60 M60 G3

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Apple's acclaimed professional notebook series has shown steady improvements over the last three years by offering features like faster processors, DVD drives, larger screens, faster processors, and longer battery life. The top-of-the-line model offers a 300-MHz G3 processor, while its second-tier sibling contains a 400-

MHz engine.

By utilizing the G3 series of processors, as advocated by IBM, Apple has always been able to offer true desktop-class performance across its entire product line. The G3's new copper-based power design has opened to one: without a doubt, and is extremely efficient at times of its electrical power.



and heat dissipation. Portable designs as we see it as cool as possible, and conserve battery life. The G3 design is close to an ideal choice for this situation. In contrast, Intel-based notebook systems use scaled-down versions of

PowerPC CPUs in order to address the power draw and heat issues. The tradeoff to this approach is that performance is significantly compromised when measured against their desktop kin.

Depending on many factors—which include the type of applications you use, and the energy settings you use—battery life on the PowerBook G3 ranges anywhere from three to five hours. However, the G3-BCM from Apple and substituting it with a second battery doubles the laptop's effective use.



Apple, in its typical fashion, has added a number of new features for creative users. Indeed, first, there's a set of green LEDs indicator on the side of the unit to indicate the level of battery charge while plugged in—especially useful when your unit is powered off. Additionally, there's a heart-rate pulsing green LED to indicate when the unit has

entered sleep mode.

The on-screen design of this unit hasn't changed at all from the previous Lombard generation of PowerBooks. Pismo comes with the more elegant and striking two-tone black enclosure containing a handle, translucent white Apple logo, increased ergonomics, such as the faster processor. A 30 GB hard drive, and 871 MHz 128-MB graphics processor with 8 MB of video RAM, all combine to offer significantly enhanced performance.

Unlike Apple's iBooks—which target the consumer and education markets—the professional portfolio offers not about every expansion option one would ever require. In addition to the PC-Card slots on the left side of the machine, opening the flap on the backplate reveals slots for a 56Kbps modem, microphone, and 15-bit analog-to-digital. Comprehending these are dual USB, a single 1394 FireWire, VGA, S-Video out and external ports.

Continued on page 78

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Online & Connected

Internet Trends • Wired and Wireless • Online Services • Work & Play on the Web

Great search, bad karma

Google's latest search technology may not jibe with Canada's new privacy laws

By Stefan Subewski

Google Inc. (<http://www.google.com>) is probably best known for its superior search engine, a robust Internet tool that often finds obscure Web sites on the first pass.

But with an latest Toolbar and Canada's new privacy legislation, Google might seem to be on the wrong side of privacy legislation.

That was important to Google and its users alike. After all, companies "don't want to be on the wrong side of privacy legislation," said Michael Power, a partner with Gensler, Laffoon, Henderson LLP (<http://www.glh.com>). "It would be a public relations nightmare."

On Dec. 11, the Ottawa Valley-based search engine firm unveiled the Google Toolbar's downloadable version, which lets users search Web sites with the company's speedy technology.

Simply add the free Toolbar to your browser and use Google's search engine to find what you seek, whether or not the site you're searching has its own search engine.

The installation does carry a price, however. Google's Toolbar with an "advanced" feature set "may be sending information about the sites you visit to Google," according to the warning before download.

It's not Google has your Internet protocol (IP) address, thanks to the download. And the company leaves your destination online. Could Google get your email address and phone number as well?

Subewski: "That's the scary technology" which, according to company spokesman David Krieger, Google isn't willing to build.

"We know where the user has gone in the past," he said. "And we have a particular browser used at that address... But we don't know who those people are."

Google does know, however, where your

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Google's toolbar also in your Web browser's task window, working and reporting your every online move.

browser goes and what it does at the destination. This is valuable stuff, the sort of personally relevant information that would make marketers dream if Google decided to sell on knowledge.

Still, Krieger said, "We have no plans to do that." The company doesn't seek to even sniff what

Despite Google's Internet claims, companies have been known to try to sell personally identifiable information without consent. Consider online sex sites. Teenstream.com Inc., whose stock of sex profiles routinely becomes its greatest asset when it goes public, Teenstream.com could sell the info and pay off creditors.

Steven stated the company's privacy policy, which said Teenstream.com wouldn't sell the info. When this sex story leaked, executives figured the privacy policy went down with the ship.

How do users know Google wouldn't do the same thing?

"The privacy policy will exist," Krieger said. "We reserve the right to change our privacy policy but we'll let you know when those changes are."

Power points to Canada's privacy legislation, Bill C-6, which took effect on Jan. 1. The law governs what companies can do with personally identifiable information.

Bill C-6 stipulates users "surrender" consent—as long as the user knows he or she is being watched and that the info could go on the auction block or be disclosed by the privacy act—this company is in the clear.

Google's privacy policy has this to say: "Search features available on the Google Toolbar can enhance your search and browsing experience but may require that we have

Continued on page B4

Opera Web browser finally goes free

OS/2, Netscape—Opera Software (<http://www.opera.com>) whose small, fast, low-power speed, but still state-of-the-art, Web browser has taken off in many different areas of the world, says it is abandoning its registration fees for the software.

The Opera browser, which runs quite happily on an OS/2-based PC, has all the usual features seen on Internet Explorer and Netscape Navigator, except that it consumes far fewer resources than the best machine it runs on.

The company says the latest version of the browser, Opera 5.0, is being made available for free in return for users viewing a single advertisement at the edge of their screen, and will allow the browser into the mainstream, building on its existing 1.5 million registered users worldwide who have paid USD\$.

Opera is tapping New York-based CyberPoint (<http://www.cyberpoint.com>) for its banner advertising system. CyberPoint will administer the weekly draw (each of banner ads to the website of the Web browser).



It's not Netscape. Opera's chief executive officer, and the result is a re-negotiation of the system made a change for Opera, moving it out of the subscription browser status and into the mainstream.

The Opera Web browser, he went on to say, has been developed over a period of five years.

Continued on page B6

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#### Great search, but harms

Continued from page B6

some understanding of the Web page than you are receiving... Google can also use that information about what pages you have viewed to improve functionality or display, or add new features."

Later, for the sake of "the people you are reporting to double their bottom line," if we do, we will no longer require information about the pages you are viewing unless you click on one of the feature buttons."

We met through Jon DeMuth, former staff attorney for the Electronic Frontier Foundation (EFF/effect.org), however, Google offers us "opt out." We would rather see an "opt in" whereby the company lets up front, would you mind if we tracked your surfing habits?"

Otherwise "people don't know what other means is being collected and what it's being used for," Peter said. "They don't have a choice."

No control means no confidence. And a lack of confidence leads to less, Peter said.

But all in all, Google's privacy policy is at least with Canada's law, by Google won't pull a Tupperware on you, right?

As Peter mentioned, Tupperware.com was caught between two rules. On one hand its privacy policy said the company wouldn't sell any products. On the other, the company had to do as best as they could, according to U.S. law, anyway.

If Google launched an online store, which law would take precedence? Would Canada's privacy policy encourage an information sell-off? Or would Google's privacy policy stand strong?

There's just, "Usually the specific applies

over the general, and the privacy act [BICO] is general legislation."

Indeed, Google is a U.S. company. Do Canadians have global computer? Peter said they do. After all, "Google operates in Canada," no matter where the company keeps its servers. However, Peter noted that doesn't a question of enforcement. The government would have to want Google's assets in Canada. Otherwise it would have to wait for a trial at Google's home base.

Google has no assets in Canada, according to Kline. So far, our Canadian would have to find their assets, U.S. style, wait a trial in California, present legal arguments and hope to get a judge who sympathizes with red-willed Canadians.

The U.S. has no nation-wide privacy rules. But even that is on its back foot. The legislation says that almost nothing.

It's bad news for us to do well. However, where the policy says organizations can't use personally identifiable information to track consumers if "it has reasonable grounds to believe [the user] would be misled or the collection of a compromise of the laws of Canada."

Right, unless we're in the U.S. But Canada doesn't put your laptop store board. If you want to do online in the U.S. and the real world, you probably didn't get it right away. Google's Toolbar sends certain information home. Search engine spiders know if your browser has been tampered with.

Would Google call the police on needy users? Not likely, Kline said. "We collect it [information], as Google said. We don't run back at someone separately."

The company isn't revealing on the law for Toolbar takes the cost down

Google's latest online privacy policy. Yes, the "take off" is free.

But Google's Toolbar policy is terrible. The company launched an August 10, Dec. 15—the same for the Privacy Foundation (EFF/privacyfoundation.org) said. However, should become instant company's losing gift.

The foundation's recent study on Web browser extensions like Google's Toolbar says people may "intentionally" hand over personally identifiable information. The group says many of the 12 extensions it studied don't tell users what information they give, or why.

Meanwhile, the Electronic Privacy Information Center (EPIC/epic.org), a U.S. group advocating online privacy, wants that country's Federal Trade Commission (FTC/ftc.gov) to scrutinize Amazon.com's (amazon.com) privacy policy.

In September, Amazon.com changed its policy. Previously, it said it wouldn't share users' personally identifiable information with third parties. But the new policy says Amazon.com can do so.

While Amazon.com has said the policy was written simply in the spirit of full disclosure, the Electronic Privacy Information Center says the Internet book store's changed the deal. Amazon.com doesn't offer an "opt out" for users to change or even prohibit, other nation's laws unless users, the Electronic Frontier Foundation's Peter said and the second Amazon.com offered no opt-out.

Amazon.com's trouble lies in great online law, but inside, the company is not to have changed its privacy policy because it didn't want to pull a Tupperware on it or to lose the shop.

—CanadaComp.com.com

## Modularized XHTML debuts

**WOLFGANG** Germany—At the WWW Forum held in Berlin in early December, WebKiosk (http://www.webkiosk.com) unveiled a next-generation version of XHTML (extensible hypertext markup language).

The new XHTML, known as modularized XHTML, is not markup language (XML) offers content from a single source to be processed by delivery to any Internet-enabled device. And live in minutes.

In many ways, this new XHTML was supposed to allow Web site content, but failed, because of the subtle differences between different markup language (XML) and basic XHTML. XML allows a single set of rules to be used on one page viewed on a Web-enabled mobile phone, or a regular PC-based Web browser.






XHTML is not a replacement for Web page coding. WebKiosk is keen to stress, instead, a simple set of tools is added as an extension to any standard Web-authoring package, replacing the need for low-level programming code and allowing non-technical authors to distribute Web documents from content and applications will be displayed on a Web or Web-enabled device.

Stefan Gellert, WebKiosk's chief executive officer, said meeting Web authors did not need to learn any new skills to make use of XHTML, because there is little difference between applying XML and standard XHTML. Gellert said that in a world in which companies, suppliers and employees expect instant access to corporate information through a growing range of Internet-enabled devices, WebKiosk's response was to make it develop their website capabilities. In order to

Continued on page B6

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# Open browser finally goes live

*Continued from page 42*

into the Internet, that Internet experience available on the market.

The speed of the browser is achieved both through how fast it installs packages, and its functionality.

"One of features will not slow Open down, nor diminish the Internet experience," said one OpenSource, adding that the browser will be a quick install, with advertisements being downloaded into the browser only once a week, to be cached for later use.

"This ensures the very fastest Open goes to the downloading trail, as well as not too intrusive ads. Also, every necessary precaution has been

taken to ensure privacy," he said.

On installation, Open new defaults to the new OpenSource model, although users will have the option of switching to the post/installed mode and turn off the ads to return to Open.

Though the new browser is self-updated, Open and users will not be required to provide any upfront profiling information in order to receive it. The company said users will, however, be asked to profile themselves in the browser itself as the advertising they receive will be more relevant—but even then will be set a privacy-voluntary basis. Open said the profile information will not be personally identifying, and will not be shared with any third parties.

The new browser includes integrated news,

mail, search, and, for the first time in Open, an instant-messaging client.

Open 0.2 for Windows supports technologies such as SSL-160 encryption, SSL 1.0, SSL 2.0 and 3.0, SSL and SSL, HTML, ADO, HTTP 1.0, XMLRPC, and JavaScript 1.2 as well as experimental support for GDI and Win32.

Open is available for other OSes, but based on Linux for both and SPARC, and a free beta version for Linux. The company said it is also testing a non-public alpha version for Mac OS, the release of this testing site has been postponed.

## Getting the word out

Open Software is entering the free-browser field

and is winning. In an effort to take the prize of its project, the company said it will be distributing browser software (3-4000) in computer magazines, as well as allowing it to be bundled with software from other makers, and promoting it through some of the Internet's "major Web sites."

"While their latest releases, Microsoft and AOL/Netcape have focused on strengthening the integration of their browser, portal and ISP services, pushing them to almost complete with independent portals, ISPs and content sites that around the world," said Open Software, manager of strategy alliances for Open. "This offers a pure browser developer like Open Software great opportunities to serve these companies fully customized, on-demand versions of its browser. Any company that is based on a central, traffic-heavy and content-rich will find the Open browser a valuable tool to further serve its customers," he said.

—Bridgette and TSP staff

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## Mediational DTMF details

Continued from page 44

media competitive.

"However, the diversity of devices, protocols, formats and browsers in the wireless environment makes this a daunting challenge, particularly for companies that have already invested heavily in developing their network-based assets," he said.

Open added that TSP overcomes this by providing a very simple, standardized way of abstracting how a service content, for delivery to different devices.

"This means that the author can create full content over their content regardless of the medium through which it is being consumed, and consequently ensure a far more consistent user experience," he said.

Open said the author can use in real-time how content will appear on different devices, so as to ensure that the display capabilities of each device are optimized.

"As it currently stands, companies are often forced to display valuable IT resources to a wide-range of content and applications for delivery to different devices," he said, adding that it is not incredibly complex task that most companies don't have the resources to sustain in the longer term.

As a result, he said, many major companies are relying more heavily on content of revenue about setup and maintenance costs and the need for its better experience.

The most important feature of TSP, Mediational, says, is that it is XML compliant and offers a convenient and low-cost method for companies to maintain their corporate resources by enabling them to re-use existing enterprise content and applications.

Thus, the company says, removes many of the IT resource dependencies traditionally associated with the wireless Internet.

—Bridgette

## Shopping email

Mail-Shopping Email, version 2.0 is now available for free download. This PC application for Microsoft Outlook 98 and 2000 converts email into a digital window of shopping list. Users can choose how long messages are available, even create email messages and to use as they are not part of your corporate record. You can also use this within a company to allow customers that their confidential, internal good will be made permanently unavailable on the Web, the company says.

<http://www.shopping-email.com>

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# Careers & Training

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## Excel formatting tricks



**F**Excel's formatting commands always have been one of the spreadsheet program's strengths. This month, we'll look at some of the options available for formatting numbers using Excel.

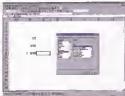
### Default format

Excel looks at any number you type into a cell and tries to format it based on the number itself. If a number has a leading dollar symbol (\$), the cell will have a currency format. If it has a trailing percentage symbol (%), it will have a percent format, and if you type 3.14159, it will appear as a date.

If you later remove the number from the cell, you'll see Excel formatting will remain unless you clear the formatting, still using Edit, Clear, then All. You can also remove the formatting only by choosing Edit, Clear, then Formatting.

### Choose your own format

If you don't want to use one of Excel's default formats, you can customize the formatting by selecting a cell, then choosing Format, Cells, then the Number tab. From that dialog box you can choose a format from the Category list, then select from the options that appear for that particular category.



Excel has a vast list of formatting options that allow you to create and use custom formats in your worksheets.

When the cell you have currently selected contains a number, the dialog's Sample box will show you what the number will look like if the current format is applied to it.

### Adding decimals

If you prefer to enter your numbers in a worksheet on a calculator, you can make Excel do the far for you by just typing 23 will appear as 13 and typing 135 as 1.35. To do this, choose Tools, Options, then select the Edit tab and check the Force decimal checkbox. For the number of digits after the decimal point in the Options box set two, then click OK to finish.

Because the underlying number is still there—it just isn't visible. To display the number you must either use the keyboard. The quickest way to do this is to click on the boundary to the right of the column heading to widen the column to fit all its contents.

### Showing zeros

When you have a worksheet with a number of zeros in it, you may wish to keep the cell contents but hide the zeros from view. You can hide the display of zeros on a worksheet by selecting Tools, Options, the View tab, then to

hide zeros, check the Zero Values checkbox and click OK. Removing this option displays zeros in the empty worksheet.

### The answer is wrong!

When you're summing numbers, don't make the mistake of thinking that when you can't see doesn't mean. For example, if you have a cell containing the number 1.55 and you multiply it by two in another cell, the result should be 3.1. However, if the cell containing 1.55 is formatted to show only one decimal place, the display will round up and appear as 1.6. So, the cell containing the multiplication will suggest that 1.6 times two is 3.2.

In fact, the multiplication is "correct" but your data is using the correct cell values when they are formatted to one decimal place. If your calculations should be based on the values you can see, rather than those that underlie the worksheet, you can change the precision of the calculations so they use the displayed values instead of the underlying ones. To do this choose Tools, Options, the Calculation tab, then enable the Precision As Displayed checkbox and click OK. This will be useful if your data will permanently lose accuracy if that is acceptable, choose OK.

The display will update if you change the calculation. Excel will permanently change any calculation on your worksheet. So, if a cell contains the number 5.007, which displays as 5.00, it will be changed permanently to 5.006 by selecting this option.

Continued on next page

Linux for Novice, Part 10

## Word processing in Linux: Part 1

Unix has acquired a deep treasure chest of tools for creating and producing complex documents such as reports, theses and books. Linux has inherited a rich set of these packages



### By Gino Milione

**T**here are two branches of word processing associated with Linux. There's the traditional Linux—Windows and Macintosh—style formatted, glossy page to use, and offering varying degrees of compatibility with Microsoft Word. Some of these Linux word processors are proprietary and some open source. They're the GUI-based mouse-driven programs most people think define the category of "word processing."

There's also a other kind, produced from an older tradition that might best be called "document processing." One of the original uses for Linux was to build the documentation. Because of this, Linux has acquired a deep treasure chest of tools for creating and producing complex documents such as reports, theses, and books. Linux has inherited a rich set of these packages.

In this installment, we'll look at four of the best X-based word processors that have

arrived since the Linux event at the past two or three years. If you already use a word processor on another operating system, these packages will undoubtedly feel comfortable and intuitive. In that 2, we'll define our working languages and their components such as LaTeX, LyX, and XSL-FO, based on LaTeX.

### WordPerfect 6 for Linux

Office suites have become products, but if you're content with a commercial-grade standards word processor, WordPerfect for Linux is a first choice. It fits right. Performance is snappy, and the feature list is extensive, including a nice supply of WordPerfect printer drivers. And, of course, WordPerfect comes in several flavors.

There are drawbacks, however. The "personal" version of WordPerfect 6, available here as a download, has a few features disabled. Word offers a relatively expensive "pay for" version with all the features listed.

Compatibility with Microsoft Word, up to Word 6, is possible, but far from perfect. WordPerfect printer drivers are not available for other Linux applications.

WordPerfect 6 for Linux was released about two years ago, a lifetime in Linux terms. Because it was compiled against the then prevalent Linux packages, it doesn't always install well against the latest versions of current Linux distributions. To use WordPerfect, you need to install more than 100 libraries for backward compatibility. Nevertheless, it's a solid, proven product. You can download WordPerfect 6 for Linux at <http://www.wps.com/linux/w6linux76/>.

Word offers a more recent version—WordPerfect 7—as an open Core Office 2000 model. WordPerfect 7 is an actively different product, based in part on cross-platform WordPerfect 7.0, and is available on both Linux and Windows. Unfortunately, WordPerfect 7 is a sluggish even with a very up-to-date

Continued on page 10





#### Linux for Novice (Part 1)

Continued from page 48  
processes and is not available as a trial download. There is also a dual-arch (i386) distribution with Linux. It is not known at the time of this writing, if the company will continue its Linux initiatives. For now, stick with WordPerfect 8.

#### StarOffice 5.2

The StarOffice suite has been around for a few years and was available as a first down load long before Sun Microsystems purchased the German-based product. Sun now offers it for free to both Linux and Windows,

and there is a big reason as to why Sun is in the process of open-sourcing the code and the name will probably be changed to OpenOffice. StarOffice is a major component of Sun's strategy to gain a foothold in the Microsoft Office empire.

But it is a product to give Microsoft a bit of competition with the product. Unfortunately it's the rough equivalent of Microsoft Office 2000 Professional. Both now offer a database. Microsoft Office includes Access and StarOffice includes Adabas D.

The word processing module is modern and feature-rich, making it a candidate for low-end desktop publishing as well as office

word processing. It exports to HTML, Word, RTF, and other formats. Importing Microsoft Word documents, including Word 97 and Word 2000 is generally good, though not perfect (Word tables break up a bit on import). Sun promises better and better Microsoft compatibility with each release.

The chart database of StarOffice is its down side. It requires extensive resources to run and is slow to load. For Linux it's less, yet still support is limited to Type 1 fonts. There are not serious drawbacks if you use Postscript equipment, but it comes within the product's capabilities for Linux.

next. There should be TrueType font support as the next release near 6.0 seems to be Linux becoming unloped.

If you have a speedy processor and plenty of RAM, the product has a good look and feel and it will work downloading to be up and. Check it out soon, however.

#### AbiWord

Moving from the commercial world into the world of open source, we arrive first at the AbiOffice project. The goal of AbiOffice is to create a suite of free desktop productivity applications. Its first product is AbiWord Personal. AbiWord is a work in progress, reaching only version 0.7.13 at the time of this writing. It is very lightweight but has all the features most people need in a word processor. The look and feel remind one of Microsoft Word 1.0.

AbiWord employs an innovative approach to file storage. Its native file format is XML, rather than the typical binary formats used by products such as WordPerfect, Word, and StarOffice. The use of an open standard prevents AbiWord file formats from going out of date as a first step.

It also exports to RTF, HTML, and LaTeX. The LaTeX export is highly interesting, as we'll see next month. It can also export to FDB, the Palm format, allowing AbiWord documents stored on PDB to be imported directly into Palm devices. AbiWord exports RTF and Word 97 documents.

The feature list for this program is short, solid and growing: character formatting, paragraph alignment, spell check, interactive ruler and tabs, styles, calculated textfields, multiple windows control, undo/redo/redo, insert, delete, and images.

For a product that hasn't yet reached version 1.0, AbiWord is impressive. It looks and works like a professional word. You can check it out at [www.abiword.com](http://www.abiword.com). It is also included as part of many Linux distributions. Take a few minutes. It may be the one you're looking for.

#### KOffice

One of the ambitious goals of the KDE Project is to create a complete open-source office suite with goals that competitors with such other KDE's KOffice, is now being released as an optional part of the release of KDE2.

KOffice is the word processor of the KOffice suite and usually it's a pleasure (see Fig. 1). You can see at first glance that the product is a labor of love, with attention paid to small details.

KOffice is feature rich and design-based, giving it a somewhat professional feel. It is designed to be used for desktop publishing as well as word processing.

KOffice exhibits a lot of "buenos" file loading and saving are slow. Export to HTML is broken in the release I tested, it only created a header. If you highlight material, however, the HTML key doesn't delete it, making it use standard as those of industry accepted languages.

Nonetheless it's a lovely product that is going to improve with each iteration. For now, if you're a nonprofessional and just want something too important to be used a makeshift a clean track record. You can find the full story on KOffice at [www.kde.org](http://www.kde.org).

**Word processing: an alternative view**  
Linux is a quack's mix of new and old. The first problem moment in this installment was already new: they made full use of the graphical user interface and screen support

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Continued from page 66

Upright 3200 allows you to connect quite a few PCs. For those who don't need to connect as many systems, the slightly older four-port Upright 3000 is available for \$159.99.

Keywords: *ESQ*; *ESQ* scale; *ESQ* scale reliability; *ESQ* scale validity

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- Compatible with other Western, ETL and ULN
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- Eggs in 1992
- DDT on eggs up to 1970s
- Residuals still seen in some in the US

Platform-specific, can be used with any next-gen Ethernet and iSCSI connectivity.

• The open option to "sell the land" may encourage the hypercollaboration:

Hendrick has previously worked as a senior business consultant, spent, with service providers rather than consumers. Now, the technology is available at a lower price point for the consumer market. While Hendrick's unit is more expensive than other direct-to-consumer models, it's because the technology is endorsed by both ISPs and telcos—the types of businesses that first endorsed broadband, in a more modest way.

Therapeutic services are best delivered by a multidisciplinary team.

we tried to access the device's internal IP address for configuration, we were unable to get into it with anything. Sometimes pages would come up and very few of the links worked. We soon discovered this was because we were using Netscape. When we switched to Internet Explorer, everything worked A OK.

As you'll expect from a product endorsed by USA, the Maximal is a pretty solid piece of equipment, giving you a lot of genuine over-comforting and support. Apart from the above mentioned "Nosecap" problem, I worked just like it should. Casual wear may be put off by the higher price, but power users should find a worthy trade-off.

## DOI: 10.1002/for

James "Buck" Symonds, 44.

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Suggested price: \$19.95



- Compatible with x86, amd64, i386, x86\_64, and ARMv7L architectures
- D407 also supports addresses for up to 1024 devices
- D407 also supports for four 16-bit ports and two 32-bit
- Port address: built right into the device, supported by Windows, Linux, and iOS
- Ships with two Ethernet cables
- Supports PoE++
- Platform-specific: needs only any device set up to use D407, not a D407

As with the other broadband-sharing devices reviewed this month, the EE Networking Bureau was easy to set up. And as with most of the other devices, the Web-configuration interface was less intuitive than the other interfaces because the data was split up, and in a slightly different way.

One minor complaint: the printed installation profile tells you to enter the Bernoulli IP address, and offers a "sample" IP address, but doesn't state definitively that it's the router's default IP address. A full user manual is included on CD ROM, concerning detailed information about all aspects of the device, including configuration of the unit's default IP. It would have been nice to have a printed manual included, but that's quite aside, the device offers a lot of flexibility and power in configuration, which makes up for this.

As for subcompact sharing devices, go the four-post, Bernacolo 904888, a one of the smallest we've seen, despite the fact that it includes a great mirror and a CDMP post for use with an analog or modern. These extras also make it one of the most versatile small, four-post sharing homes. Even better, it's about the same price as the other four-post posts.

Webinars and more Webinars

88—"If you enjoy putting pen to paper, as if you are looking for an audience for your poetry then a new site out by Writing Tree may be what you were waiting for. Created to help writers of all interests and skill levels to get a "greater sense of fulfillment from their writing" the site is based on the principle that one of a writer's greatest joys is sharing with others. Thus it allows you access to a free Internet publishing community, so that when it's your turn you're on Charles Dickens you can still have your say.

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# AD INDEX

|                              |    |
|------------------------------|----|
| SI Computers                 | 20 |
| SIWA CyberSoft Corp.         | 24 |
| SI-POWER                     | 25 |
| SiSoft/PowerBusiness.com     | 26 |
| SiSoft/Power                 | 27 |
| SiSoft Computers             | 28 |
| Advanced Business Technology | 35 |
| SI Electronics               | 36 |
| SI Monitor                   | 37 |
| SI Monitor of Technology     | 38 |
| SI Monitor of Technology     | 39 |
| SI Monitor                   | 40 |
| SI Monitor Technology        | 41 |
| SI Monitor                   | 42 |

|               |        |
|---------------|--------|
| AT & T Canada | 43, 44 |
| ATC Computer  | 45     |
| ATC Computer  | 46     |
| Autosonic.com | 47     |
| Autosonic.com | 48     |
| Autosonic.com | 49     |
| Autosonic.com | 50     |
| Autosonic.com | 51     |
| Autosonic.com | 52     |
| Autosonic.com | 53     |
| Autosonic.com | 54     |
| Autosonic.com | 55     |
| Autosonic.com | 56     |
| Autosonic.com | 57     |
| Autosonic.com | 58     |
| Autosonic.com | 59     |
| Autosonic.com | 60     |

|            |    |
|------------|----|
| Can Canada | 61 |
| Can Canada | 62 |
| Can Canada | 63 |
| Can Canada | 64 |
| Can Canada | 65 |
| Can Canada | 66 |
| Can Canada | 67 |
| Can Canada | 68 |
| Can Canada | 69 |
| Can Canada | 70 |
| Can Canada | 71 |
| Can Canada | 72 |
| Can Canada | 73 |
| Can Canada | 74 |
| Can Canada | 75 |
| Can Canada | 76 |
| Can Canada | 77 |

|            |    |
|------------|----|
| Can Canada | 78 |
| Can Canada | 79 |
| Can Canada | 80 |
| Can Canada | 81 |
| Can Canada | 82 |
| Can Canada | 83 |
| Can Canada | 84 |
| Can Canada | 85 |
| Can Canada | 86 |
| Can Canada | 87 |
| Can Canada | 88 |
| Can Canada | 89 |
| Can Canada | 90 |
| Can Canada | 91 |
| Can Canada | 92 |
| Can Canada | 93 |
| Can Canada | 94 |
| Can Canada | 95 |

# AD INDEX

|            |     |
|------------|-----|
| Can Canada | 96  |
| Can Canada | 97  |
| Can Canada | 98  |
| Can Canada | 99  |
| Can Canada | 100 |
| Can Canada | 101 |
| Can Canada | 102 |
| Can Canada | 103 |
| Can Canada | 104 |
| Can Canada | 105 |
| Can Canada | 106 |
| Can Canada | 107 |
| Can Canada | 108 |
| Can Canada | 109 |
| Can Canada | 110 |
| Can Canada | 111 |
| Can Canada | 112 |
| Can Canada | 113 |

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 Microsoft Visual Studio .NET 2014  
 Microsoft Visual Studio .NET 2015  
 Microsoft Visual Studio .NET 2016  
 Microsoft Visual Studio .NET 2017  
 Microsoft Visual Studio .NET 2018  
 Microsoft Visual Studio .NET 2019  
 Microsoft Visual Studio .NET 2020  
 Microsoft Visual Studio .NET 2021  
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 Microsoft Visual Studio .NET 2005  
 Microsoft Visual Studio .NET 2006  
 Microsoft Visual Studio .NET 2007  
 Microsoft Visual Studio .NET 2008  
 Microsoft Visual Studio .NET 2009  
 Microsoft Visual Studio .NET 2010  
 Microsoft Visual Studio .NET 2011  
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 Microsoft Visual Studio .NET 2014  
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 Microsoft Visual Studio .NET 2016  
 Microsoft Visual Studio .NET 2017  
 Microsoft Visual Studio .NET 2018  
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 Microsoft Visual Studio .NET 2020  
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